

What is claimed is:

1. System LSI design support apparatus which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, said apparatus having as an input a program describing system features in a high-level language, comprising:

a function extractor, which extracts functions described in the program;

an analyzer, which counts the number of conditional branch statements described in each function extracted by the function extractor; and

a calculation section, which outputs calculation result information based on the counting results of the analyzer for each function extracted by the function extractor.

2. The system LSI design support apparatus according to claim 1, wherein the analyzer counts the number of nestings of the conditional branch statements described in each function extracted by the function extractor.

3. The system LSI design support apparatus according to claim 1, wherein, based on the calculation process of variables related to the conditions of the conditional branch statements described in each function extracted by the function extractor, the analyzer counts the number of functions required to generate

the variables.

4. The system LSI design support apparatus according to claim 1, further comprising;

mapping means, which compares definition information where a plurality of combinations selected out of the number of conditional branch statements processed by the processing unit, the number of nestings of the conditional branch statements and the number of functions required to generate variables related to the conditions of the conditional branch statements are defined per separate processing unit, with calculation result information output from the calculation section to map an appropriate processing unit to each function.

5. System LSI design support apparatus which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, said apparatus having as an input a program describing system features in a high-level language, comprising:

a function extractor, which extracts functions described in the program;

an analyzer, which counts the number of loop control statements described in each function extracted by the function extractor; and

a calculation section, which outputs calculation result

information based on the counting results of the analyzer for each function extracted by the function extractor.

6. The system LSI design support apparatus according to claim 5, wherein the analyzer counts the number of nestings of the loop control statements described in each function extracted by the function extractor.

7. The system LSI design support apparatus according to claim 5, wherein, based on the calculation process of variables related to the number of repetitions of loop control statements described in each function extracted by the function extractor, the analyzer counts the number of functions required to generate the variables.

8. The system LSI design support apparatus according to claim 5, further comprising:

mapping means, which compare definition information where a plurality of combinations selected out of the number of loop control statements processed by the processing unit, the number of nestings of the loop control statements and the number of functions required to generate variables related to the number of repetitions of the loop control statements are defined per separate processing unit, with calculation result information output from the calculation section to map an

appropriate processing unit to each function.

9. System LSI design support apparatus which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, said apparatus having as an input a program describing system features in a high-level language, comprising:

a function extractor, which extracts functions described in the program;

an analyzer, which counts the number of conditional branch statements and loop control statements described in each function extracted by the function extractor; and

a calculation section, which outputs calculation result information where the counting results of the analyzer are summed for each function extracted by the function extractor.

10. The system LSI design support apparatus according to claim 9, wherein the analyzer counts the number of nestings of the conditional branch statements and loop control statements described in each function extracted by the function extractor.

11. The system LSI design support apparatus according to claim 9, wherein, based on the calculation process of variables related to the number of repetitions of the conditional branch statements and loop control statements described in each function extracted

by the function extractor, the analyzer counts the number of functions required to generate the variables.

12. The system LSI design support apparatus according to claim 9, further comprising:

mapping means, which compares definition information where a plurality of combinations selected out of the number of conditional branch statements and loop control statements processed by the processing unit, the number of nestings of the conditional branch statements and loop control statements, and the number of functions required to generate variables related to the number of repetitions of the conditional branch statements and loop control statements are defined per separate processing unit, with calculation result information output from the calculation section to map an appropriate processing unit to each function.

13. The system LSI design support apparatus according to claims 1, wherein the function extractor comprises:

function combination means, which specifies at least one of the plurality of sets of functions arbitrarily selected from the functions extracted by the function extractor and that the analyzer performs analysis of each set of functions specified by the function combination means.

14. A system LSI design support method which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, comprising steps of:

inputting a program describing system features in a high-level language;

extracting functions described in the program;

counting the number of conditional branch statements described in each function extracted; and

outputting calculation result information based on the counting results for each function extracted.

15. The system LSI design support method according to claim 14, further comprising the steps of:

counting the number of nestings of the conditional branch statements described in the each function extracted.

16. The system LSI design support method according to claim 14, further comprising the steps of:

counting, based on the calculation process of variables related to the conditions of the conditional branch statements described in the each function extracted, the number of functions required to generate the variables.

17. The system LSI design support method according to claim

14, further comprising the steps of: inputting definition information where a plurality of combinations selected out of the number of conditional branch statements processed by the processing unit, the number of nestings of the conditional branch statements and the number of functions required to generate variables related to the conditions of the conditional branch statements are defined per separate processing unit; and

comparing the definition information with the calculation result information to map an appropriate processing unit to each function.

18. A system LSI design support method which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, comprising steps of:

inputting a program describing system features in a high-level language;

extracting functions described in the program;

counting the number of loop control statements described in each function extracted; and

outputting calculation result information based on the counting results are summed for each function extracted.

19. The system LSI design support method according to claim

18, further comprising the steps of:

counting the number of nestings of the loop control statements described in the each function extracted.

20. The system LSI design support method according to claim 18, further comprising the steps of:

counting, based on the calculation process of variables related to the number of repetitions of the loop control statements described in the each function extracted, the number of functions required to generate the variables.

21. The system LSI design support method according to claim 18, further comprising the steps of: inputting definition information where a plurality of combinations selected out of the number of loop control statements processed by the processing unit,

the number of nestings of the loop control statements and the number of functions required to generate variables related to the number of repetitions of the loop control statements are defined per separate processing unit; and

comparing the definition information with the calculation result information to map an appropriate processing unit to each function.

22. A system LSI design support method which supports a design



for assigning system features to a system LSI comprising processing units having a plurality of different architectures, comprising steps of:

inputting a program describing system features in a high-level language;

extracting functions described in the program;

counting the number of conditional branch statements and loop control statements described in each function extracted; and

outputting calculation result information where the counting results for each function extracted.

23. The system LSI design support method according to claim 22, further comprising the steps of:

counting the number of nestings of the conditional branch statements and loop control statements described in the each function extracted.

24. The system LSI design support method according to claim 22, further comprising the steps of:

counting, based on the calculation process of variables related to the conditions of the conditional branch statements and those related to the number of repetitions of the loop control statements described in the each function extracted, the number of functions required to generate said variables.

25. The system LSI design support method according to claim 22, further comprising the steps of:

inputting definition information where a plurality of combinations selected out of the number of conditional branch statements and loop control statements processed by the processing unit, the number of nestings of the conditional branch statements and loop control statements, and the number of functions required to generate variables related to the conditions of the conditional branch statements and those related to the number of repetitions of the loop control statements are defined per separate processing unit; and

comparing the definition information with the calculation result information to map an appropriate processing unit to each function.

26. The system LSI design support method according to claim 14, further comprising the steps of:

specifying at least one of the plurality of sets of functions arbitrarily selected from the functions extracted,

wherein the specifying performs the calculation of each of the specified sets of functions.

27. Database apparatus for storing data to be provided to system LSI design support apparatus which supports a design

for assigning system features to a system LSI comprising processing units having a plurality of different architectures, wherein the data concerns to a program describing system features in a high-level language and the data is definition information where a number of conditional branch statements processed by the processing unit is defined per separate processing unit.

28. Database apparatus for storing data to be provided to system LSI design support apparatus which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, wherein the data concerns to a program describing system features in a high-level language and the data is definition information where a number of loop control statements processed by the processing unit is defined per separate processing unit.

29. Database apparatus for storing data to be provided to system LSI design support apparatus which supports a design for assigning system features to a system LSI comprising processing units having a plurality of different architectures, wherein the data concerns to a program describing system features in a high-level language and that said data is definition information where a number of conditional branch statements and loop control statements processed by the processing unit is defined per separate processing unit.